SEMIR ZEKI

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Semir Zeki's principle interest is to chart the functional organization of the primate visual brain. He has combined anatomical, physiological, and imaging techniques with clinical observations to show that the visual brain consists of many distinct visual areas and that attributes such as form, colour and motion are processed by separate visual areas. This work has, in turn, interested him in undertaking neurobiological studies to learn how a sensory stimulus triggers an affective state and results in an emotional experience, leading him to study the neural correlates of the experience beauty, desire, love and hate. Most of his work is published in scientific journals.

His books include *A Vision of the Brain* (1993), La *Quête de l'essentiel* (co-authored with the French painter Balthus), *Inner Vision: an exploration of art and the brain* (1999), *Splendors and Miseries of the Brain* (2009) and *La bella e la bestia* (co-authored with Ludovica Lumer). He has used his knowledge of colour vision to prepare white sculptural works which are experienced in colour and which were exhibited at the Pecci Museum of Contemporary Art in Milan in 2011, under the title of *Bianco su bianco: oltre Malevich* (White on white: beyond Malevich).

The Neurobiology of Aesthetic Experiences and Their Neural Correlates

Although inspired by philosophies of aesthetics in formulating its questions, neuroesthetics does not seek to explain beauty but studies instead the neural mechanisms that allow humans, regardless of culture and ethnic origin, to experience beauty. Whether the aesthetic experience is derived from sensory sources (visual, musical) or from highly cognitive ones (mathematical), it correlates with activity in field A1 of the medial orbito-frontal cortex (mOFC), although otherwise different brain areas are active with visual, musical or mathematical experiences. The more intensely a stimulus is experienced aesthetically, the stronger the activity in mOFC, thus showing that aesthetic experiences and judgments can be quantified. Philosophies of aesthetics have posited that experience of the sublime is quite distinct from that of beauty, and we find that, correspondingly, experience of the sublime correlates with a significantly different pattern of neural activity compared to the experience of the beauty. This pattern does not include the mOFC but includes the caudate nucleus and the hippocampus. I will discuss these results in relation to the neurobiology of other sensory experiences, such as those of colour and motion.